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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,928	10/22/2001	Steven M. Knowles	10765-015001	8524

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WASHINGTON, DC 20036

EXAMINER
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BOCHNA, DAVID

ART UNIT	PAPER NUMBER
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3679

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/982,928

Applicant(s)

KNOWLES, STEVEN M.

Examiner

David E. Bochna

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,7,10,12 and 41-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,7,10,12 and 41-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the subject matter of claim 7 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 41 is rejected under 35 U.S.C. 102(b) as being anticipated by Coutu.

In regard to claim 41, Coutu discloses a flexible joint assembly comprising:

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A joint assembly inlet 14a;  
A joint assembly outlet 14a; and  
a fluid flow path between the inlet and the outlet, the flow path including:  
a first pivot joint (8 and 13a);  
a second pivot joint (8 and 13a); and  
a unitary central fluid conductor 2 fluidly coupling the pivot joints, each of the first pivot joint and second pivot joint including:  
an inner member 13a;  
a receiving member 1 dimensioned to pivotally receive at least part of the inner member;  
a sealing member 5 sealing between the inner member and the receiving member;  
a supporting member 11 supporting the sealing member substantially uniformly over the entire length of the seal between the inner member and the receiving member and  
a retaining ring 9 compressing the supporting member and the sealing member by threadably connecting to a surface of the receiving member 1 adjacent to the central fluid connector 2 and the inner member 13a.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 7, 10, 12 and 42-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coutu.

In regard to claim 1, Coutu discloses a flexible joint assembly for conducting a fluid, comprising:

a joint assembly inlet 14a;

a joint assembly outlet 14a; and

a fluid flow path between the inlet and the outlet, the fluid flow path including:

a first pivot joint (8 and 13a);

a second pivot joint (8 and 13a), wherein each of the first pivot joint and second pivot joint independently comprises a ball and socket joint, wherein each ball and socket joint comprises:

a socket 3;

a ball 13a received in the socket;

a seal 5 between the ball and the socket, and each ball and socket joint further comprises a compressing member 10 axially compressing the seal between the ball and the socket and a retaining ring 9 compressing the seal between the ball and the socket; and

a unitary central fluid conductor 2 fluidly coupling the pivot joints wherein the central fluid conductor 2 couples (via 8) to a first ball 13a of the first pivot joint and a second ball 13a of the second pivot joint, and each retaining ring 8 compresses the seal by threadably connecting to a surface of the socket 3 adjacent to the central fluid conductor and the ball,

wherein the pivot joints together provide greater than a 60 degree bend between

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the inlet and the outlet and each pivot joint independently provides greater than a 35 degree bend in the fluid flow path (each pivot 13a appears, from the drawings, to have at least a 45 degree range of motion off of the central axis). The central fluid conductor 2 of Coutu has a length, but Coutu does not disclose the exact length of the conductor. However, it would have been obvious to one of ordinary skill in the art to make the conductor shorter than 10 centimeters because a change in the size of a prior art device is a design consideration within the skill of the art. In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955).

In regard to claim 7, the first pivot joint and the second pivot joint together provide a substantially 90 degree bend between the inlet and outlet (each pivot 13a appears, from the drawings, to have at least a 45 degree range of motion off of the central axis).

In regard to claim 10, where the inlet and outlet include a fitting (threaded interior or exterior 14 or 14a).

In regard to claim 12, each pivot joint independently provides greater than a 40 degree bend in the fluid flow path (each pivot 13a appears, from the drawings, to have at least a 45 degree range of motion off of the central axis).

In regard to claims 42 and 43, Coutu discloses the socket on the unitary central fluid conductor and the balls on the inlet and outlets. However, it would have been obvious to one of ordinary skill in the art to place the balls on the conductor and the sockets on the inlet and outlet because the reversal of components in a prior art reference, where there is no disclosed significance to such reversal, is a design consideration within the skill of the art. In re Gazda, 219 F.2d 449, 104 USPQ 400 (CCPA 1955); In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

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5. Claims 1, 7, 10, 12 and 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrison in view of Shames et al.

In regard to claim 1, Morrison discloses a flexible joint assembly for conducting a fluid, comprising:

a joint assembly inlet 41;

a first pivot joint;

wherein each of the first pivot joint comprises a ball and socket joint, wherein the ball and socket joint comprises:

a socket 15;

a ball 20 received in the socket;

a seal 24 between the ball and the socket, and the ball and socket joint further comprising a compressing member 26 axially compressing the seal between the ball and the socket and a retaining ring 28 compressing the seal between the ball and the socket and a unitary central fluid conductor 22.

Morrison does not disclose a second joint assembly connected at the other end of the unitary central fluid conductor 22 that is less than 10 mm long. However, it would have been obvious to one of ordinary skill in the art to make add an identical pivot joint assembly to the second end of 22 because duplicating the components of a prior art device is a design consideration within the skill of the art. In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). Further evidence that it is common and well known in the art to add a ball at both ends of a unitary central conductor is demonstrated by Shames et al.

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Morrison is silent as to the full angle at which the joint can be bent, however Shames et al. also demonstrates that it is common and well known to provide a flexible joint connector with pivot joints that together provide greater than a 60 degree bend between the inlet and the outlet and each pivot joint independently provides greater than a 35 degree bend in the fluid flow path (see fig. 5 of Shames et al.). Therefore it would have been obvious to modify the joint of Morrison to bend more than 40 degrees, because the practice allowing ball and socket joints to bend at least 40 degrees is common and well known in the art, as demonstrated by Shames et al.

The central fluid conductor 22 of Morrison has a length , but Morrison does not disclose the exact length of the conductor. However, it would have been obvious to one of ordinary skill in the art to make the conductor shorter than 10 centimeters because a change in the size of a prior art device is a design consideration within the skill of the art. In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955).

In regard to claim 7, the first pivot joint and the second pivot joint together provide a substantially 90 degree bend between the inlet and outlet (see fig. 5 of Shames et al.).

In regard to claim 10, where the inlet and outlet include a fitting (threaded interior or exterior 17).

In regard to claim 12, each pivot joint independently provides greater than a 40 degree bend in the fluid flow path (see fig. 5 of Shames et al.).

In regard to claims 42 and 43, the central unitary fluid conductor 22 includes a tubular central portion that defines a longitudinal channel between a first conductor end terminated by the first ball 20 and a second conductor end terminated by the second ball 20 (as taught by Shames et al.).



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*Response to Arguments*

6. Applicant's arguments with respect to claims 1, 7, 10, 12 and 41-43 have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Bochna whose telephone number is (703) 306-9040. The examiner can normally be reached on 8-5:30 Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (703) 308-2686. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.



**David Bochna**  
**Primary Examiner**  
**Art Unit 3679**  
**May 16, 2005**